Cindy Soon
Wei-Haur Lam

Department of Civil Engineering, Faculty of Engineering, University of Malaya,50603 Kuala Lumpur, Malaysia

A study of ship's propeller jet induced scour

Seabed scour is getting common worldwide and has become a critical problem in recent years. The scour effect is most likely to happen near to harbours and berth structures, where high velocity vessels manoeuvre in shallow and confined water area. This severe wash may undermine the foundation of harbour structure and affect the stability of the structure. The damage of the structures will

consequently lead to costly remedial and maintenance works. Harbours play an important role in the country's economic growth, as trade facilitators connecting individual country to the various parts of the world via sea. This paper reviews the harbours located in the eastern seaboard of Peninsular Malaysia and East Malaysia, which are facing the South China Sea. The study of the velocity field within a ship's propeller jet is recognized to be the initial step to the investigation of the seabed scour. A ship's propeller jet comprises three velocity components, including axial, tangential and radial velocity of component. Axial velocity of component has more significant scouring effect than the other two components. The three basic steps to predict the velocity field within a complex ship's propeller are the prediction of efflux velocity, maximum velocity, and lateral velocity distribution.